REMARKS

Claims 1-9 stand rejected under 35 USC 103(a) as being unpatentable over Khanna et al. (6,609,151) in view of Thurlow et al. (6,457,879).

The present invention enables getting email status faster when booting a computer. Page 1, lines 9-20 ("When a personal computer is switched on, the BIOS, which is a program stored in an erasable programmable read only memory (EPROM) in the hardware of the system, carries out a sequence of operations

-     it determines the system configuration,
-     it verifies some of the hardware
-     it then loads the OS loader from the storage device (e.g.. Hard disk)

Thereafter the OS loader takes over and continues with the loading of the operating system including the OS kernel and resident OS subsystems.

Only after all these basic activities have been completed, the system is ready to perform useful tasks. This entire process takes a significant amount of time.

For a user interested in knowing the received email count this implies a significant amount of time spent in waiting for the system to actually perform the required task, from the time he/she switches it on.").

In order to achieve speed, the invention claims features in the BIOS or the performance of steps during a boot up process. Claim 1 (". . . characterized in that said BIOS includes . . ."); claim 4 (". . . a method for accessing email count during the boot up process comprising . . ."); claim 7 ("A computer program product . . . for causing a computer to access email count during the boot up process . . .").

Since these features are in the BIOS, performed during boot up, etc. they produce actions before application software or even operating system software is loaded. Page 5, lines 6-9 ("This invention saves precious time to the ordinary user, who wants to check e-mail count before deciding/planning actions for a particular day. *The user does not have to wait for the application software and OS software to be loaded and initialised.*") (emphasis added); see also page 4, line 22 - page 5, line 2 ("Referring to figure 2, when the computing system is switched on (7), the BIOS is loaded (8) and starts execution. As a first step, the BIOS verifies the hardware of the system (9). If the verification is successful, the BIOS uses network adapter driver (2) to communicate (10) with the network adapter hardware (3). The BIOS further uses the TCP/IP module (4) to communicate (11) with the remote email system over the network and access the email headers. The received email headers are then parsed (12) by email header parser (5) to extract the email count for each designated user. This information is then displayed (13) on the terminal of the system.").

Khanna teaches about making modifications to a computer BIOS, but not for a purpose relating to e-mail. Khanna is concerned with controlling a first computer by a second computer, which Khanna refers to as "redirecting" (to the second computer) the control console of the first

computer (also, "console redirection"). Column 2, lines 19-34 ("FIG. 1 shows one computer 100 that is connected to a network 120 to communicate with a remote computer 130. The techniques disclosed herein are operable to configure and control the computer 100 so that operations of the computer 100 can be controlled from another remote computer (e.g., the computer 130) as if the user were physically present. This allows sharing of hardware and software resources between the computers 100 and 130. The above operation appears to "redirect" the control console of the computer 100 to a remote computer 130. The remote computer 130 may be at any location that has a link to the network 120 and may be a portable computer, a desktop PC, a workstation, or any other information processing device based on a computer processor. This console redirection improves the efficiency and reduces costs in resource sharing, service, and management of networked computers."). For that purpose, Khanna teaches adapting the first computer so that the console redirection can be done at the first computer's BIOS level regardless of whether the first computer has booted to its operating system. Column 3, lines 40-56 ("The computer 100 is controlled so that the remote computer 130 can access and execute its BIOS in the ROM 108 through the NIC 116 and the network 120 regardless of the operating status of the computer 100. This access can include, e.g., before or after the computer 100 is booted, when it experiences a failure, or it is under a power management mode such as hibernation. In particular, the present console redirection allows communication between the computer 100 and the remote computer 130 when the computer 100 does not have a locally-running operating system ("OS"), e.g., before the OS is launched, when the computer 100 has failed to boot for some reason or does not have an OS installed locally. Hence, the console redirection may be implemented by operations of software and hardware components at the BIOS level of the computer 100 in order to perform certain operations in absence of a local OS and to operate by running an OS in the remote computer 130."). To do this, Khanna teaches adding special routines to the first computer's BIOS and implementing a hardware layer interface for the first computer's network interface card. Column 3, line 56 - column 4, line 20 ("This OS-independent console redirection may be implemented from at least two different aspects. First, the BIOS stored in the ROM 108 includes special routines and instructions that control and coordinate the console redirection from the computer 100 to the remote computer 130. These special BIOS routines and instructions control operations of the NIC 116 and direct data for the console redirection to a desired destination. . . . In another aspect, an NIC hardware layer interface may be implemented to make the communication between the computer 100 and the network 120 (to the remote computer 130) independent of the specific hardware configuration of the NIC 116 . . ."). Certainly none of this teaching by Khanna even suggests the specific methods and structures claimed in present invention, which involve specific, claimed BIOS features, boot up steps, etc. about accessing and displaying e-mail information.

The only point about "e-mail" touched on by Khanna concerns using email to establish communication between the computers. Column 5, line 66 - column 6, line 10 ("Computers 100 and 130 need to know each other's network addresses (e.g., IP addresses) in order to communicate. The address of the

remote computer 130 may be stored in the ROM 108 in advance or communicated to the computer 100. The BIOS in the computer 100 may include the routines to inform the remote computer 130 of the network address for the computer 100 upon completion of the step 230. For example, the BIOS of the computer 100 may include an electronic mail routine (e.g., the Simple Mail Transfer Protocol for the Internet) to send the newly-assigned network address via email to the remote computer 130."). Thus, Khanna does disclose BIOS-effected email communication. However, Khanna discloses no purpose having to do with faster access to and display of an email count from a remote email server as in the claims of the present invention. See, for example, claim 1 (". . . said BIOS includes . . . a means to download the email count for the current user from the remote email server on said network, and a means to display the email count for the current user in a defined format on the display of said computing system.").

Thurlow *does* concern access to email information. But like Khanna, Thurlow does not concern speedy access to and display of an email count. Thurlow concerns fixing the problem of disrupted email message processing that occurs when a computer switches between online and offline modes. Column 2, lines 47-53 ("Offering users the capability of operating in either online or offline mode has, unfortunately, spawned another problem. Most e-mail clients are not well equipped to accommodate a transition between online and offline modes of operation. Consequently, a computer's transition between online and offline states can disrupt effective e-mail message processing."); column 3, lines 14-34 ("This problem is not limited to the example of a portable computer with a docking station, but can occur with any computer that loses an operating communications line with a mail server. No effective solution to this problem has been proffered in the prior art. Indeed, most e-mail clients either assume that the remote computer user is always in online mode, or allow the remote computer user to select online or offline modes of operation, but are unable to accommodate a transition between online and offline states of operation. Therefore, there is a need in the art for an improved method of effecting a transition between online and offline modes of e-mail processing operation where there is a transition between online and offline states. This method should provide the remote computer user an interface for configuring the responsive actions to be taken in the event of a state change. In addition to an improved configuration interface, the system should provide the capability to automatically respond to the detection that the remote computer has made a transition between online and offline states and to continue to process e-mail in accordance with a user's configuration settings.").

Moreover, Thurlow's teaching is directly contrary to that of the present invention. That is, Thurlow teaches that email information is accessed "upon starting-up (i.e., boot)," but it is accessed *by an e-mail program*, MICROSOFT OUTLOOK, *not the BIOS*. Column 14, lines 34-57 ("LAN-Only Operation When the user has selected the LAN connection button 302 in the CCW 300 (FIG. 3), but has not selected the secondary dial-up network checkbox 304, the "MICROSOFT OUTLOOK '98" *program* will

operate in LAN-only mode. This mode will never seek to establish a connection to the mail server 49 (FIG. 1), via a dial-up connection. Therefore, if the LAN connection is unavailable or the mail server 49 (FIG. 1) cannot be connected to via the LAN connection for some other reason, the program will simply be unable to enter the online mode of operation. Accordingly, *the "MICROSOFT OUTLOOK '98" program* will check the LAN connection upon starting-up (i.e., boot). If the LAN connection to the mail server 49 (FIG. 1) is operational, then the *program* will send and receive mail via the LAN connection and then enter online mode. Periodically, the *program* will poll the mail server 49 (FIG. 1) in the background for any new incoming messages. . . .") (emphasis added).

Thurlow does not teach accessing the email information by the BIOS, *during the BIOS boot up process*, etc. as claimed in the present invention. The reference by Thurlow to "upon starting-up (i.e., boot)" must be taken to mean that after the operating system loader takes over from the BIOS boot process the *email program* is loaded and checks the LAN connection, since Thurlow says "the 'MICROSOFT OUTLOOK '98' program will check the LAN connection upon starting-up (i.e., boot)." Thus, Thurlow teaches precisely the way of doing things that the present invention changes.

The present invention involves checking and displaying an email count during the BIOS boot process. This enables displaying email count very quickly upon power up. This could mean not even having to wait for the BIOS boot process to finish. This is not suggested by the fact that it is well known to automatically check for email by an email program "upon starting up."

In summary, one of the references cited teaches BIOS-effected email communication as a means for enabling a remote computer to control another computer. The other teaches checking for email by an email program after booting the BIOS. There is no suggestion by these teachings of checking a remote email server for an email count and displaying the email count during the BIOS boot process. Furthermore, there is no suggestion of a motivation to combine these teachings.

Drawings. The Office Action includes a *Notice of Draftsperson's Patent Drawing Review* indicating that the sheets of the originally submitted drawings are not an acceptable size. Accordingly, replacement sheets of 8 ½ x 11 size are included herewith.

Docket JP920000198US

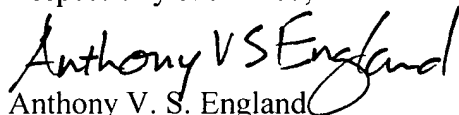Appl. No.: 09/649,738
Filed: August 28, 2000

PRIOR ART OF RECORD

Applicant has reviewed the prior art of record cited by but not relied upon by Examiner, and asserts that the invention is patentably distinct.

REQUESTED ACTION

Applicant contends that the invention as claimed in accordance with amendments submitted herein is patentably distinct, and hereby requests that Examiner grant allowance and prompt passage of the application to issuance.

Respectfully submitted,

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